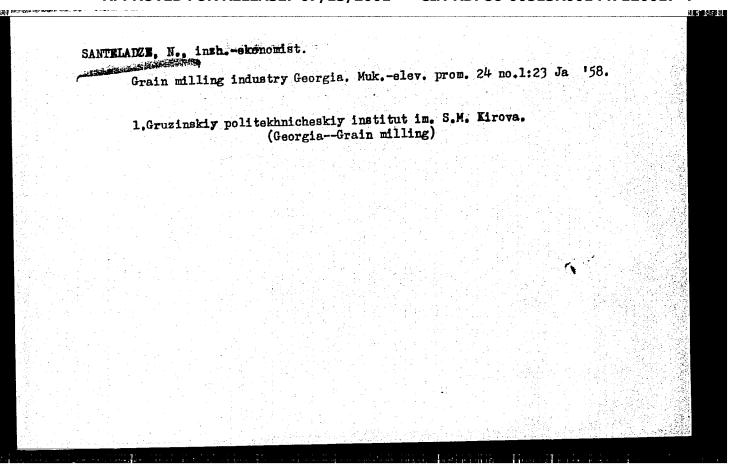
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Sarcoma of the bladder in a 2-year-old child. Acta chir. Iugosl. 11 no.2:166-169 '64

- 1. Kirurski odjel Djecje bolnice u Zagrebu (Sef: prim. Dr.
- B. Poljugan).



| e Personalisa Personalisa | SANTELA | ADZE, N.V., aspirant Indices of the productive capacity of wine making enterprimes. | 18.2% |
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| | | Trudy MTIPP no.19:26-37 '62. | :. |
| | | Indices of the utilization of capital assets in the wine making industry. Ibid.:38-48 (ME:A 17:4) | |
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SANTGOL'ZER, V.

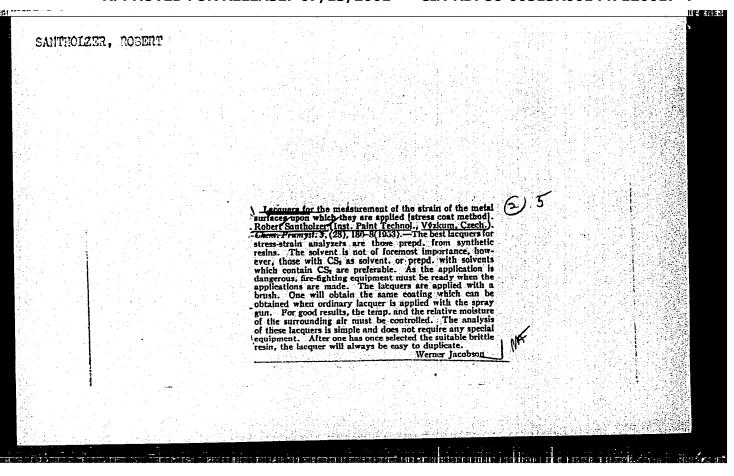
Results of systematic measurements of radioactive fallout in the year following the ending of nuclear weapons tests.

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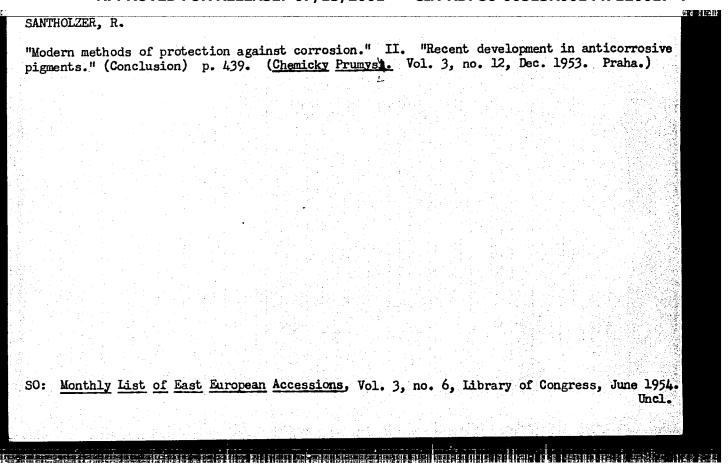
1. Kafedra fiziki meditsinskogo fakuliteta Karlova universiteta, Gradets Kralove, Chekhoslovakiya. (Radioactive fallout)

| Radioactive fallout in Czechoslovakia during 1959-1960. Atom. |
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| iO: Monthly List of | East European Vol. | 2, No.9 rary of Congress, | September 1953, Uncl. |



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Praha, Czechoslovakia. Statni nakl. technicke literatury, 1959. 139 p.

Monthly List of East European Accessions (EEAI), LC, Vol. 8, no. 11, Nov. 1959 Uncl.

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The effect of synthetic plasma expanders on the absorption of glucose in experimental combined hemorrhagic shock. Acta physiol. hung. 17 no.4:391-399 '60. 1. Health service of the Hungarian people's army and Institute of Pathophysiology, University Medical School, Budapest. (PLASMA SUBSTITUTES phamrcol) (SHOCK exper) (GLUCOSE metab)

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SakThis, A., Dr. medical Lieutenant-Colonel (orvowalezredes);

"Experimental Data on the Early Radiation Reaction of the Digestive System II. Changes in the Micromotility of the Small Date stine in Animal Experiments as a Result of General or Abdominal Radiation Exposure."

Budapest, Honvedorvos, Vol 14, No 4, Oct-Dec 62, pp 305-316.

Abstract: [Author's Hungarian abstract abringed] Micromo-VIIIty stops within a few hours after general or abdominal irradiation with doses of 200-800 r as shown in dogs. The irradiation with doses of 200-800 r as shown in dogs. The stoppage is preceded by a transient stimulation which may be avoided by antihistemine and ganglion-inhibitor treatment. Notility changes may be produced also in unirradiated dogs with crossed carotis circulation, explicable in terms of a transfer of so-called "radiotexins". If 0.1 N HCl is of a transfer of so-called "radiotexins". If 0.1 N HCl is introduced into the ducdenum of the starved and irradiated donor animal, this will revive the micromotility of both, donor and acceptor, within 16-24 hours of the irradiation

SANTHA, Andras, Dr., physician lieutenant colonel; Health Service of the Hungarian People's Army (A Magyar Nephadsereg Egeszsegugyi Szolgalata) and the Frederic Joliot-Curie National Radiation Biological Institute (Frederic Joliot-Curie Orszagos Sugarbiologiai Intezet) (director: VARTERESZ, Vilmos, Dr., candidate of medical sciences).

"Experimental Data on the Early Radiation Reaction of the Digestive System III. The Changes in Carbohydrate Absorption due to X-Ray Irradiation."

Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 242-249.

Abstract: [Author's Hungarian summary] Dogs irradiated with supralethal doses of X-ray have been joined by cross-carotid circulation to non-irradiated dogs. The determination of glucose and xylose absorption in both dogs, in the initial hours after irradiation, gave the following results: 1. X-ray irradiation decreases the absorption of carbohydrates noticeably, already in the early post-irradiation phase. The inhibition is observed in both dogs although to a lesser degree in the non-irradiated dog; 2. the further decrease in the glucose and xylose absorptions is not proportional. The differences indicate that the initial stress effect and the increased permeability of the intestinal mucosa manifest themselves earlier in the absorption of the xylose than of the glucose. In the latter case, the disturbance of phosphorylation plays a decisive role; 3. initially, the rate of the development of sugar absorption disturbance is slower in the irradiated than in the non-irradiated animals. This is attributed to an increased motility 1/2

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Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 242-249.

of the intestinal villi in the early stages of irradiation which compensates temporarily for the combined defects of absorption due to disturbances in the circulation, oxidative phosphorylation and other stress effects; 4. the results of the experiments confirm previous findings by the author which indicate that early intestinal disturbances, due to irradiation, can have a humoral transfer to non-irradiated animals. The assumed humoral mediator inhibits some enzymatic processes and increases the permeability of the mucosa. The results of sugar absorption tests are not quite clear cut because of antagonistic factors present, which cause some modifications. 11 Eastern European. 18 Western references.

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SANTHA, Andras, Dr., physician-lieutenant colonel, cand. of med. sci.;

Hungarian People's Army, Health Service (Magyar Nephadsereg Egeszsegugyi
Szolgalata), and National 'Frederic Joliot-Curie' Research Institute of
Radiobiology and Radiation Hygiene (director: VARTERESZ, Vilmos, Dr., cand.
of med. sci.) (Orszagos 'Frederic Joliot-Curie' Sugarbiologiai es Sugaregeszsegugyi Kutato Intezet).

"Metoklopramid as an Antiemetic in the Primary, General Irradiation Reaction of Experimental Animals (Preliminary Communication)."

Budapest, Honvedorvos, Vol XVIII, No 4, Oct-Dec 66, pages 313-321.

Abstract: [Author's Hungarian summary modified] The effect of metoklopramid (Paris) on the motility of the digestive tract and its antiemetic effect were studied in animal experiments. Previous literature reports were confirmed according to which the compound is an antiemetic with low toxicity and a broad range of effectiveness which has a beneficial influence on the motility of the digestive tract. In addition to the alleviation of the emetic component of primary irradiation reaction, it is a suitable drug also because it suspends the gastric retention which accompanies irradiation and it increases the rate of intestinal passage. It also enhances the movement of intestinal villi, thereby facilitating resorption. It decreases the readiness of the intestinal wall toward antiperistalsis, this being one of the mechanisms of its local action. This is a preganglionary effect and does not inhibit the effect of phenothiazines and ganglion blockers. In therapeutic 1/2

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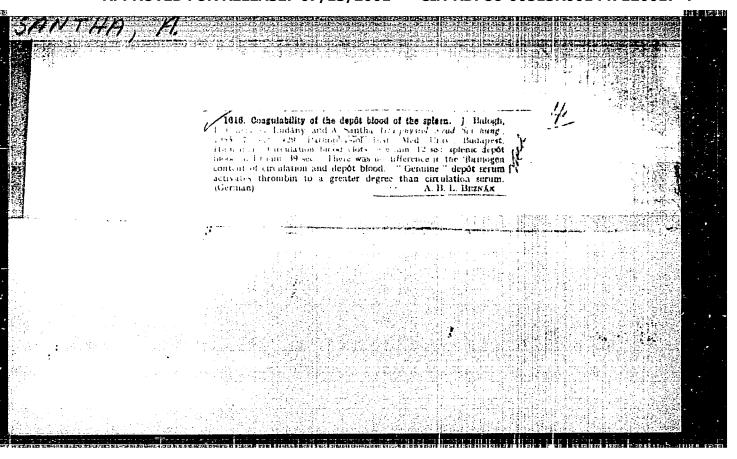
SANTHA, A., Lieutenant-Colonel, Medical Dr., Candidate in Medical Sciences, Physician Emeritus (candidat in stiinte medicale, medic emerit) (Peoples Republic of Hungary)

"Role of Nonspecific Humoral Mediators in the Appearance of Biological Affects of Ionizing Radiation"

Bucharest, Revista Sanitara Militara, Vol 16, Special No., 1965; pp 438-450

Abstract: X-irradiated dogs and rabbits with 200, 400, 800 and 1200 r: intestinal "micromotility" increases sharply initially, then falls much below the normal values; intestinal absorption of xylose and glucose falls off even in the parabiotic dog (non-irradiated dog sharing circulating blood with irradiated mate); immunologic studies indicate that necrosine is involved. 7 graphs, 7 photomicrographs, 5 immunoelectrophoregrams.

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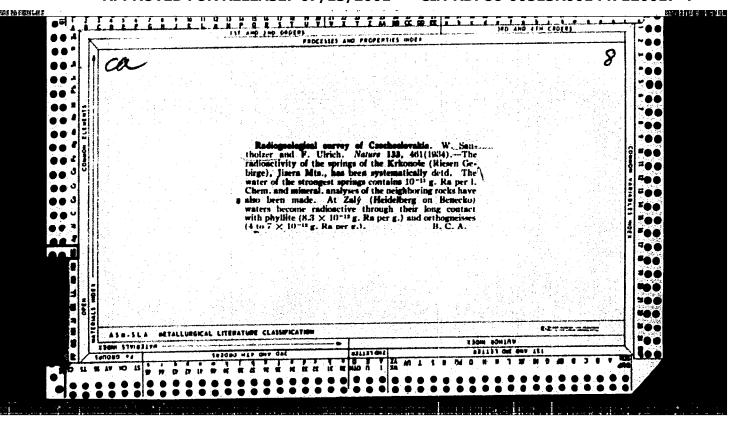
SANTHA, Andras, Dr. physician-lieutenant colonel, FABER, Viktor, Dr. physician-lieutenant colonel, BARDOS, Edit, technician; Health Service of the Hungarian People's Army (A Magyar Nephadsereg Egeszsegugyi Szolgalata) and the Frederic Joliot-Curie National Radiation Biological Institute (Frederic Joliot-Curie Orszagos Sugarbiologiai Intezet (director: VARTERESZ, Vilmos, Dr. candidate of medical sciences).

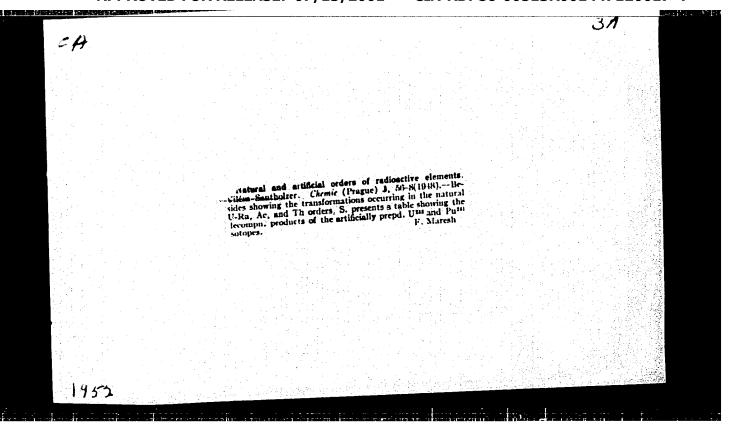
"Experimental Data on the Early Radiation Reaction of the Digestive System IV. Absorption and Excretion of Corpuscular Matter After X-Ray Irradiation."

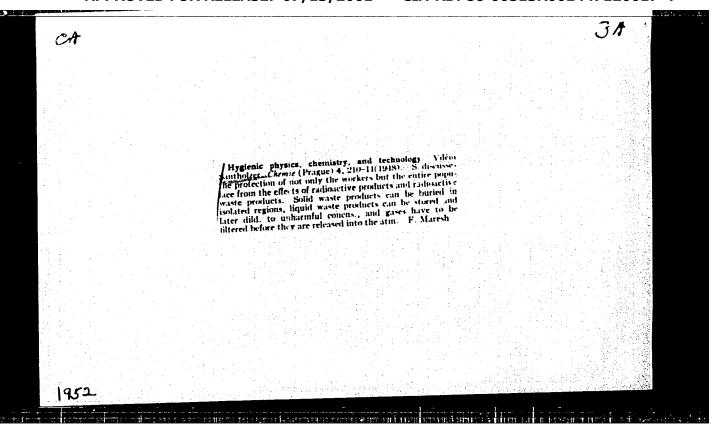
Budapest, Honvedorvos, Vol XV, No 3, July-Sept 1963, pages 250-256.

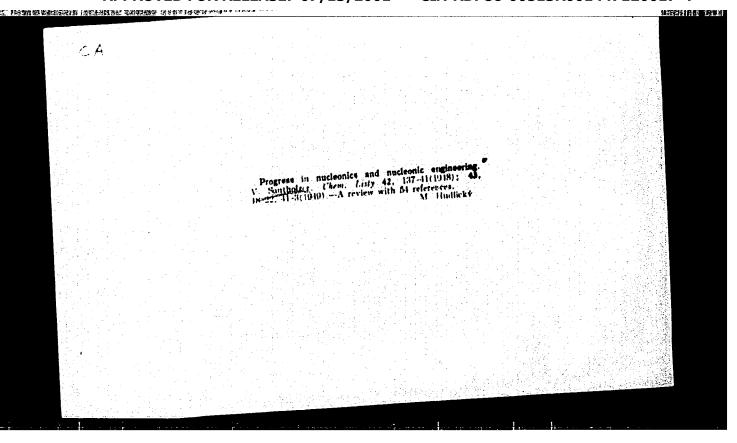
Abstract: [Authors' Hungarian summary] The mucosa of the small intestines of dogs, irradiated abdominally with supralethal (800r) doses of X-ray, show such permeability already in the first hours after irradiation, that coarse corpuscular matter introduced experimentally into the intestines (dry starch, charcoal powder, cobalt dust) can penetrate it in both directions. As opposed to the normal mucosa, the radiation injury causes permeability not only toward the lymphatic ducts but also toward the capillaries of the villi. This was shown by absorption experiments with clamped thoracic ducts. The granules do not pass through spots without epithelium since in the early stages such spots are not yet present. The factor which increases the permeability can be transferred to non-irradiated dogs by crossed-carotid circulation. The spreading effect of X-ray irradiation, as seen by experiments with corpuscular 1/2

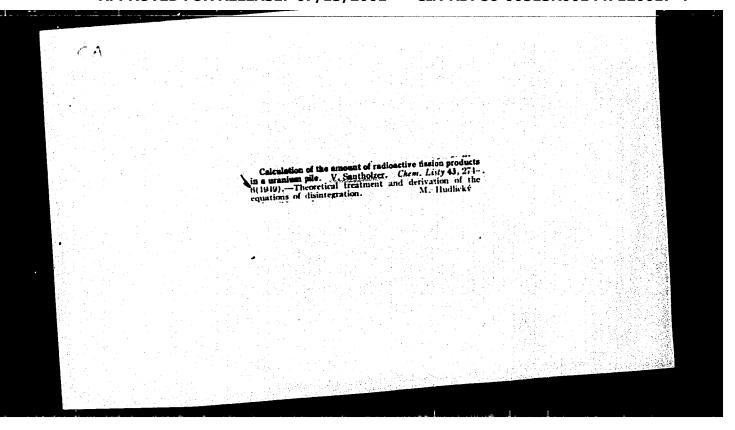
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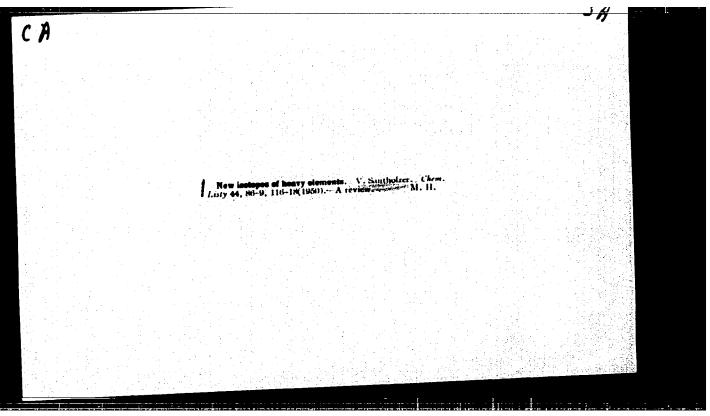












VAVRA, Rudolf; SANTHOLZER, V.

Validity of the quadratic law in electrocar diology. Cas. lek. cesk. 91 no.52:1547-1551 26 Dec 52.

1. Z Vojenske lekarske akademie v Hradci Kralove.

(ELECTROCARDIOGRAPHY, quadratic law in)

| SANTHOLZER, V. "Calculation of the Potential in Electrocardiography," p. 292. (Casopis Lekaru Ceskych, Vol.92, No.11, Mar. 1953, Praha.) East European So: Monthly List of Fulling Accessions, Library of Congress, September 1953, Uncl. | 不是 你是我不过我的证明 (在你在 2014 2010 4-10 8-4 | SABES IND DOCUMENT | | | |
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(Hradec Kralove Military Medical Academy)

SANTHOLZER, Vilem (Col. Prof. Dr. of Natural Sciences) Medical Academy)

Author of article, "Basis of Hydrogen Weapons," discussing the splitting of uranium and plutonium, thermonuclear reaction, and deuterium as a basic raw material for hydrogen weapons, and giving the theoretical breakdown of deuterium into tritium and the subsequent processes. He states that the most important components of hydrogen weapons are the isotopes deuterium, tritium, and probably lithium. He compares the effects of a hydrogen bomb to those of the atomic bomb, and states that the USSR has both the hydrogen and atomic bombs at its disposal. (VZL, Feb. 55)

SO: Sum. 600, 1 Aug. 1955,

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Santholzer, V., Podzimek, J. and Macku, J.

AUTHORS:

Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere (Soustavná měření radioaktivity atmosferických

srážek a důkaz umělé radioaktivity atmosféry)

PERIODICAL: Československý Časopis Pro Fysiku, 1958, Nr 6,

pp 716 - 721 (Czech)

Systematic measurements of the radioactivity of ABSTRACT: atmospheric showers have been made here since December, 1956. The β-activity of each rain- or snowfall was measured. The rain is collected in a permanently open flat container of about 1 m² area, situated 8.5 m above ground level. The water runs off the container into a collecting vessel and is then transferred into a flask for boiling. The water is boiled under reduced pressure until its volume is considerably reduced. It is then transferred onto an aluminium dish and is dried

completely by infra-red radiation. The β -activity is measured by a Geiger counter with a well-defined geometrical arrangement and good screening for the

reduction of background activity. Calibration by a

radioactive standard has shown an overall counting

Card1/4

TITIE:

CZECH/37-58-6-15/30

Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere

efficiency of 14%. The measured activity is always normalised to 1 litre of water. The statistical error is about 5% for weak samples and 2% for strong ones. Figure 1 shows the results of measurements up to September 30, 1957. The largest activity was recorded on August 14, 1957 and was 6 000 pulses in 5 minutes for l litre of rain. Several other maxima in the radio-In a series of rainfalls, activity have been observed. the first is commonly the most radioactive. The dependence on time of the radioactivity of each sample has been studied. In Figure 2, the activities of two samples, taken on January 8, 1958 and January 9, 1958, are plotted as functions of the time elapsed since a nuclear test. The function follows the law discovered by Way and Wigner (Ref 5) $A_t = A_1 t^{-n}$ is the total activity 1 sec after an atomic

explosion, n has a value between 1 and 1.5, usually 1.2 (Ref 2). The above relation is fulfilled in our Card2/4 case and it therefore seems likely that the mixture of

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Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere

radioactive isotopes in the rain is the same as that found in samples of rain or dust collected in the vicinity of atomic explosions.

A search for α-activity was undertaken with counters and photographic plates but no α-radiation was detected. Admittedly, the methods employed were not sufficiently sensitive to detect very weak α-activity.

An estimate of the energies of the β-particles was made by measuring the absorption of the total radiation by aluminium foil. A very rough analysis showed mainly two aluminium foil. A very rough analysis showed mainly two types of radiation, namely, 0.6 MeV and 1.9 MeV (Figure 3). This analysis does not contradict the assumption that the measured activity is due to nuclear test explosions (Ref 8).

By comparison with a 90 Sr standard preparation, it was estimated that the activity per litre of rainwater on estimated that the activity per litre of rainwater on 1.997 and 2, 1957 and August 14, 1957 was 2 x 10.9 and 4 x 10.9 may 2, 1957 and August 14, 1957 was 2 x 10.9 and 4 x 10.9 curie, respectively. This is in agreement with the results of other workers (Refs 2 and 7).

Card3/4

CZECH/37-58-6-15/30

Systematic Observations on the Radioactivity of Rain and the Proof of the Artificial Radioactivity of the Atmosphere

There are 3 figures and 15 references, 3 of which are French, 4 Czech, 5 English, 1 German and 2 Soviet.

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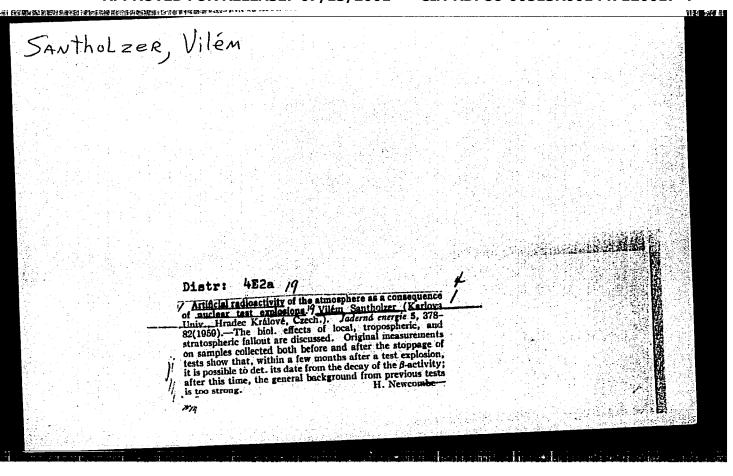
Ustav lekarské fysiky VLA a Geofysikální ústav CSAV, Hradec Králové (Institute of Medical Physics of the Military School of Medicine and Institute of

Geophysics of the Czech Ac.Sc., Hradec Králové)

SUBMITTED: September 30, 1957

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cz/38-60-1-6/24

AUTHOR:

Santholzer, Vilém (Hradec Králové)

TITLE:

Results on Measuring Artificial Radioactivity of the Atmosphere

in Czechoslovakia.

PERIODICAL:

Jaderná Energie, 1960, No. 1, pp. 16 - 20

TEXT: The author discusses various methods which may be employed to measure the degree of radioactivity, and gives the results of measuring the artificial radioactivity of atmospheric precipitations for a period of 32 months. He also gives the results of measuring radioactivity of nuclear fallout during the last eight months, which is an evaluation of the period subsequent to the cessation of nuclear tests. The dependence of the decay rate on the age of the specimen up to the period of two years is demonstrated. Also the so-called age index of several specimen with light masses has been roughly determinated. There are 6 diagrams.

ASSOCIATION:

Katedra fysiky lékařské fakulty Karlovy university (Physical Section of the Medical Faculty at the <u>Karl University</u>)

Card 1/1

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120017-4

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Z/037/60/000/03/005/014

AUTHOR:

Santholzer,

TITLE:

Results of Measurement of the Fall-out over a Period of One Year After the Stopping of Nuclear Tests

Československý časopis pro fysiku, 1960, Nr 3, PERIODICAL: pp 216 - 218

ABSTRACT: The results of these measurements have shown that the amount of fall-out has dropped substantially. During the first six months after stopping the tests, the amount of fall-out remained practically the same as it was before. The cumulative activity of the first half year after cessation of the tests (up to April 30, 1959) was 121 mc/km and for the second half year (up to October 31, 1959) it was only 54 mc/km^2 . It is probable that a permanent decrease

Cardi/3

z/037/60/000/03/005/014

Results of Measurement of the Fall-out 0 er a Period of One Year After the Stopping of Nuclear Tests

in the radioactive fall-out has begun since, during the last three months, not a single"signal" activity was observed. The average daily activity in October, 1959, was only 0.07 mc/km². The cumulative activity for the whole year after cessation of the tests, i.e. up to October 31, 1959, was 104 mc/km². The relatively long time taken to clear the troposphere from man-made radioactivity is attributed to the contamination of the lower strata of the stratosphere. Furthermore, the influence of somewhat abnormal meteorological conditions during the autumn of 1959 cannot be ruled out. This problem will be dealt with in a further paper, which will also deal with the fall-out of strontium 90. Acknowledgments are expressed to Doctor J. Podzimek for his assistance in evaluating the results.

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Results of Measurement of the Fall-out 0ver a Period of One Year After the Stopping of Nuclear Tests

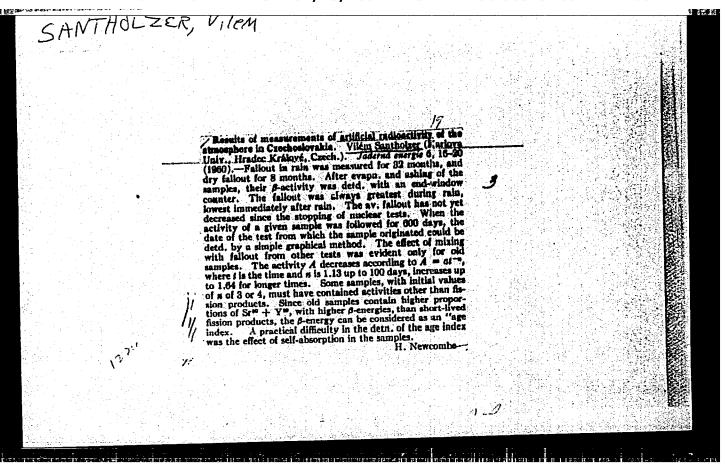
ASSOCIATION: Katedra fysiky lekarské fakulty Karlovy university, Hradec Kralové (Chair of Physics of the Medical Department,

Charles University, Hradec Kralové)

SUBMITTED: February 19, 1959

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Card3/3



z/038/60/000/009/002/005 A201/A026

AUTHOR:

Santholzer, Vilém

TITLE:

Increase of Fallout Radioactivity Due to Nuclear Tests in the Sahara

PERIODICAL:

Jaderná energie, 1960, Nd. 9, pp. 294 - 298

From the steep increase of fallout activity as measured by katedra fysiky lákarské fakulty Karlovy university (Department of Physics at the Medical TEXT: Department, Charles University) in Hradec Králové in March and April 1960, the author shows that these increases are beyond any doubt due to the nuclear tests in the Sahara on February 13, 1960 and April 1, 1960, respectively. The above Department engages in systematic measurements of fallout activity. It obtains samples from conventional collection vessels, one of sheet metal, the other of plastic. Specimens are collected in periods of 1 - 3 days, in case of increased fallout activity even daily. In addition, monthly control specimens are collected. The beta activity of the samples obtained is compared to a reference standard sample Sr-90 + Y-90, which is made available to the Department by Academidan František Běhounek of the dosimetrické oddělení Ústavu jaderného výzkumu (Dosimetric Section, Institute of Nuclear Research). Systematic measurements are per-

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z/038/60/000/009/002/005 A201/A026

Increase of Fallout Radioactivity Due to Nuclear Tests in the Sahara

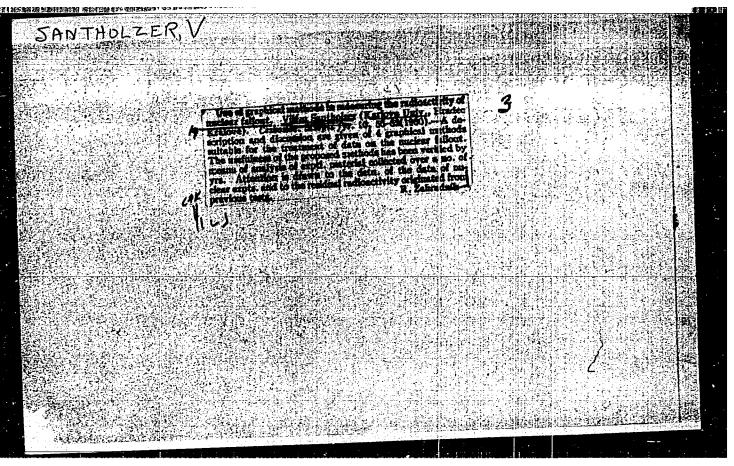
formed by an automatic measuring system including an automatic sample changer and pulse-count recording on a paper tape designed by Engineer Jiri Macku and built at the department workshop. Since the discontinuation of nuclear tests in November 1958, the fallout activity kept decreasing and reached a low of 0.03 millicurie/km²/day in November 1959 remaining at this value until the end of February 1960. On March 1, 1960, a fallout activity of 17.65 millicurie/km2/day was measured which dropped to 0.04 millicurie/km²/day after 3 weeks. Then again, on April 9, 1960, the activity rose to 0.70 millicurie/km²/day. The decrease of activity with time is given by the relation $A = at^{-n}$, where a is a constant, t is the time counted from the data of the nuclear test. The exponent n was found to be 1.2 - 1.4 for dry fallout and 1.2 for the dry residue of rain precipitations. (The reason for this difference of the two exponents could not be explained.) By the extrapolation of the increasing fallout "half-life", graphs were plotted which proved that the date of origin of the March activities was February 13, 1960 and that of the April activities April 1, 1960, i.e., the dates of the nuclear test explosions in the Sahara. There are 11 figures and 7 references: 2 Czechoslovak, 2 Soviet, 2 English and 1 West-German. ASSOCIATION: Katedra fysiky lékařské fakulty Karlovy university (Department of Physics at the Medical Department, Charles University) in Hradec Králové

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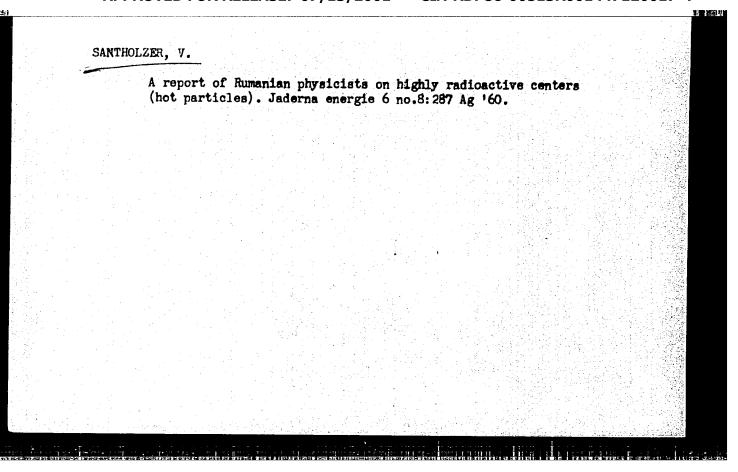
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| Strontium 90 in milk during 1957-1960, and its relation to radioactive fallout. Jaderna energie 6 no.7:217-221 J1 60. | |
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| l. Katedra chemie a katedra fysiky lekarske fakulty Karlovy university. Hradec Kralove | |
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| | | Increase of radiosctive fallout in consequence of the nulear tests in the Sahara desert. Jaderna energie 6 no.9:294-298 S '60. | |
| | | l. Katedra fysiky lekarske fakulty Karlovy university, Hradec Kralove. | |
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| Increase in the radioactivity of fallout at Hradec Králové (Czechoslovakia) as a result of nuclear testing in the Sahara. Atom.energ. 9 no.4:324-326 0 '60. (MIRA 13:9) | |
| l. Kafedra fiziki meditsinskogo fakul'teta Karlova universiteta, Gradets Kralove, Chekhoslovakiya. (Hradec KrálovéHadioactive fallout) | |
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21.720° AUTHORS:

also 2406,2606

Santholzer, Vilém, Macku Jiří, Havlovič, Vratislav, and Podzi-

mek, Jösef

TITLE:

Additional evidence of an increase in radioactive fallout as

a result of French nuclear tests in 1960

PERIODICAL: J

Jaderná energie, no. 4, 1961, 122 - 129

TEXT: Following the French nuclear tests in Frebruary and March 1960, the katedra fyziky lékařské fakulty Karlovy university (Department of Physics, Medical Section, Charles University) in Hradec Králové and the fyzikální ústav lékařské fakulty Karlovy university (Physical Institute, Medical Department, Charles University) in Plzeň determined an increase in fallout, especially that of rain precipitations. Similar results were also obtained by Rumanian physicists V. Mageru, D. Blanariu and J. Gabe (Ref 4: Frische Kernspaltprodukte in der Atmosphäre (Fresh Nuclear-Fission Products in the Atmosphere), Naturwiss. 47, 1960, 319). For fallout-activity measurements, the Department of Physics in Hradec Králové used an automatic device of its own de-

Card 1/5

26848 z/038/61/000/004/003/005 D238/D305

Additional evidence of an increase ...

sign. It consists of an automatic sample and filter changer with a GM tube; a control unit; a programming unit; a timing unit; a printer; and a power supply with protective and control circuits. The magazine of the sample changer accomodates up to ten samples. During measurements, one place in the magazine was left empty for background determination, and one place was occupied by a Sr-90+Y-90 reference standard. Fallout samples obtained in the period following the French nuclear tests had densities ranging from 37 to 104 mg/cm2. According to F. Behounek and V. Zelenková (Ref 8: Stanovení radioaktivity beta kapalných odpadů (Determination of Beta Radioactivity in Waste Waters), Jaderná energie, 6, 1960, 9, 299), the correction for self-absorption at first increases proportionally with the increasing density up to about 30 mg/cm2. With further density increases the self-absorption increment decreases so that at a density of 200 mg/cm2 the measured fallout activity virtually represents about 58% of the actual activity, while for a density of 20 mg/cm2 it is about 90%. This provided an approach for calculating the self-absorption correction. The same paper also suggested another cross-checking method when measuring fallout samples with large densities. It utilizes the so-called energetic of filtration factor F which is defined as the

Card 2/5

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Additional evidence of an increase ...

ratio of the pulse count obtained with a 0.1 mm thick Cu filter(NCu) to that obtained with a 0.1 mm thick Al filter (NA1), i.e. F=NCu/NA1. The filtration factor depends on the average maximum energy Emax of beta radiation emanating from the sample. Therefore, triple measurements were made: One without filter (N pulses/min); one with a Cu filter (NCu pulses/min); and one with an Al filter (NA1 pulses/min). Activity values obtained by this method differed from those obtained by absorption measurements using a Sr-90+Y-90 reference standard by 32% at the most. This is considered a good performance especially since the Sr-90+Y-90 standard is not an ideal one, particularly when older samples are concerned. This is because the self-absorption coefficient is different for samples of different age as was shown by J. Ralkova (Ref 9: Mereni radioactivity ve vodách (Radioactivity Measurements in water), Jaderná energie 6,1960, 3, 89). The Physical Institute, Medical Department, Charles University in Plzen used a radiographical method permitting microscopic investigation of the avtivity distribution on dust particles. A sticking glass plate 18x24 cm, of their own production was exposed for 14-21 days to the effect of sedimentation of both dry and liquid fallout. The plate was then stored for 3 days in a dustless environment to let the side products of radon and thoron Card 3/5

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Additional evidence of an increase ..

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decay. Then it was covered with a 0.18 mm thick celon foil and tightly pressed onto an X-ray film (Agfa-Laue-Film). The film was then developed in a hard X-ray-type developer. The results of the absorption measurements, and especially those of the double-filter measurements show that the fallout samples at the end of 1960 emit beta radiation of a higher average maximum energy than the fresh ones. Activity increase could also be proved by the method of sticking plates. The decrease in fallout activity with time was studied on three samples during ten months using automatic measureing equipment. The activity decrease is best expressed by the formula A=a.t-n, where n=1.2 - 1.4. The first half-times of different fallout samples range from 9 to 18 days so that they also can be tracked down to the dates of the French nuclear tests on February 13 and April 1, 1960. Appreciation is extended to Academician František Behounek. There are 11 figures and 14 references: 10 Soviet-bloc and 4 non-Soviet-bloc. The references to the four most recent English-language publications read as follows: T. Hvinden, D. Hveding, A. Lillegraven, S. H. Small, Fall-out over Norway from high-yield nuclear explosions, Nature 186, 1960, 805; R.L. Patterson, L.B. Lockhart, Long-range detection of French nuclear tests of 1960, Science 132, 1960, 474; W. Anderson, R.E. Bentley, L.K. Burton, C.A. Greatorex, Detection of recently produced fission products in the Card 4/5

26848 2/038/61/000/004,'003/005 D238/D305

Additional evidence of an increase ...

atmosphere, Nature 186, 1960, 223; W. Anderson, R.E. Bentley, L.A. Burton, J.O. Crookall, C.A. Greatorex, Radioactive fallout during 1959, Nature 186, 1960, 925.

ASSOCIATION:

Katedra fyziky lékařské fakulty Karlovy university, Hradec Králové (Department of Physics, Medical Section, Charles University Hradec Králové) (V. Santholzer, J.Macků, V. Havlovič) Geofyzikální ústav ČSAV, Hradec Králové (Geophysical Institute, Czechoslovak AS, Hradec Králové) (J. Podzimek)

Card 5/5

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30595 Z/037/61/000/006/001/004 E024/E135

VI.7WO

Santholzer, V.

TITLE:

The significance of the first half-time of

atmospheric fall-out

PERIODICAL: Československý časopis pro fysiku, no.6, 1961, 469-475

TEXT: The paper describes an additional method for the determination of the age of fall-out samples. The method is simple but rather time-consuming. Some samples of fall-out are sufficiently radioactive to make the measurement of their activity possible over a period of several months or even years. Such strongly active samples may be considered as isolated, i.e. their activity is independent of the remanent background activity from earlier nuclear explosions. A sample is considered by the author as isolated if it obeys the relation:

$$A = kt^{-n} = k(T - T_0)^{-n}$$
 (1)

A is the β -activity, k is a constant, and $(T-T_0)$ is the Card 1/3

(2)

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The significance of the first

time elapsed since the nuclear test. The exponent n equals 1.2 for fresh samples; for older samples n=1.5-1.7. There is considerable uncertainty as to the accurate value of n. If T_1 is the date of the first measurement of the radioactivity of a sample and T_2 is the date on which its activity has fallen to half its original value, we obtain the half-life;

$$\tau = T_2 - T_1 = (\sqrt[n]{2} - 1)(T_1 - T_0) = c(T_1 - T_0)$$

In general, we obtain

 $\tau = c(T - T_0)$

The plot of successive measurements of half-lifetimes of a sample against time, yields a straight line which intersects the time-axis at To, i.e. the date of origin of the sample. This procedure is valid as long as the activity of the sample is predominantly due to a single explosion and the background predominantly due to a single explosion and the background activity can be neglected. Such plots for samples originating from recent French nuclear tests demonstrate the feasibility of Card 2/3

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The significance of the first half-time... Z/037/61/000/006/001/004 E024/E135

the method. Some evidence was obtained that a radioactive cloud can pass more than once over the same geographical point.

Acknowledgments are expressed to Academician F. Běhounek.

There are 3 figures and 7 references: 2 Soviet-bloc and 5 non-Soviet-bloc. The English language references read as follows:

Ref. 4: W. Anderson, R.E. Bentley, L.K. Burton, J.O. Crookall,

C.A. Greatorex. Nature, Vol. 186 (1960), 925.

Ref. 5: D.H. Peirson, R.N. Crooks, E.M.R. Fisher. Nature, Vol. 186 (1960), 224.

Ref.6: Akpinar Sait: Nucleonics, Vol.15 (1957), 88.

ASSOCIATION: Katedra fysiky lékařské fakulty Karlovy university,

Hradec Králové

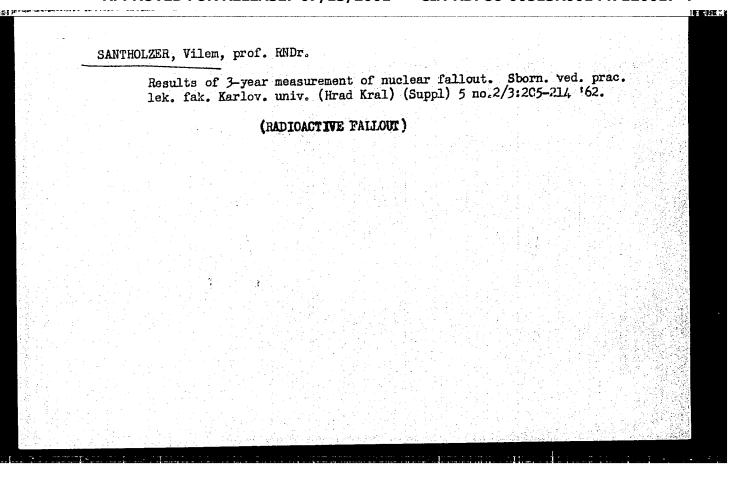
(Department of Physics, Charles University Faculty of

Medicine, Hradec Králové)

SUBMITTED: April 12, 1961

Card 3/3

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Card 1/3

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z/037/61/000/006/002/004 E024/E135

Results of atmospheric fall-out

the daily samples in January and February, 1961. This is evidence for the presence of fresh fall-out. The amount of Sr90 at the beginning of 1960 was 10-12 c/1 of rain, which is about ten times less than it was a year earlier. The author considers that the atmospheric fall-out reaching the earth at the time of writing originated in the stratosphere, which was contaminated by earlier megaton explosions. The permanent cessation of nuclear tests would reduce fall-out to the insignificant level of 10-3 mc/km2/day within a few years. Acknowledgments are expressed to Academician F. Behounek. V.P. Shvedov and L.I. Gedeonov are mentioned in connection with their work on nuclear tests. There are 1 table and 3 references: 2 Soviet-bloc and the Ref. 2: J. Hvinden, D. Hveding, A. Lillegraven, S.H. Small. W. Anderson, R.E. Bentley, L.K. Burton, C.A. Greatorex. Nature, Vol. 186 (1960), 223.

Card 2/3

z/037/61/000/006/002/004

Results of atmospheric fall-out

E024/E135

ASSOCIATION: Katedra fysiky lekarské fakulty Karlovy university

v Hradci Králové

(Department of Physics, Charles University, Faculty

of Medicine, Hradec Králové)

SUBMITTED:

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May 10, 1961

Card 3/3

"APPROVED FOR RELEASE: 07/13/2001

CIA-RDP86-00513R001447120017-4

s/081/62/000/012/013/063 B168/B101

AUTHOR:

Santholzer, V.

The half-life of radioactive fallout

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 135, abstract 12G162 (Ceskosl. časop. fys., v. A11, no. 6, 1961, 469 - 475)

TEXT: A study of changes in the activity of 56 samples of radioactive fallout, taken during 1957 - 1960, showed that the half-life of a mixture of fission fragments in the samples is expressed as a linear function of time elapsed from the moment of their formation. This value varies with the age of the fragments within the range 9-200 days. The results of investigations on determination of the age of the fragments agreed well with the date pattern of nuclear tests and indicated that the radioactive cloud which forms at the time of any one test may pass over the observation station at least twice. [Abstracter's note: Complete translation.]

Card 1/1

S/081/62/000/012/014/063 B168/B101

AUTHOR:

Santholzer, V.

TITLE:

Results of measurements of radioactive fallout levels three

years after suspension of nuclear tests

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 135, abstract 12G163 (Českosl. časop. fys., v. A11, no. 6, 1961, 476 - 479)

TEXT: Measurements of radioactive fallout levels showed that following suspension of nuclear tests in the fall of 1958 the fallout activity began to drop steeply. By the end of 1959 the average fallout per 24 hours was 0.03 mcu/km². After a slight increase to 1.93 mcu/km² in March 1960 (French tests in the Sahara) the fallout levels again fell, and by late 1960 and early 1961 had reached a value of 0.02 mcu/km2 per 24 hours. The quantities of radioactivity which accumulated during the 1st year (up to Oct. 31, 1959) and the 2nd year (up to Oct. 31, 1960) following suspension of tests and also during the period Nov. 1, 1960 to Apr. 30, 1961 were 104, 14, and 2 mcu/km 2 , respectively. The proportion of fallout from the Card 1/2

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HAVLOVIC, Vratislav; SANTHOLZER, Vilem; MACKU, Jiri

Gamma spectrometry of the atmospheric fallout. Jaderna energie 8 no.7:235-239 Jl '62.

1. Katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove.

CZECHOSLOVAKIA

SANTHOLZER, V., Prof. Dr.

Chair of Medical Physics of the Medical Faculty of Charles University (Katedra lekarske fyziky lekarske fakulty KU), Hradec Kralove

Prague, Prakticky lekar, No 2, 1963, pp 73-76

"Artificial Radioactivity Produced as a Result of Nuclear Particles."

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SANTHOLZER, Vilem; HAVLOVIC, Vratislav

Increase of the radioactive fallout in spring 1962 and the mechanism of fission product distribution in the atmosphere. Jaderna energie 8 no.12:422-426 '62.

1. Katedra fyziky, Lekarska fakulta Karlovy university, Hradec Kralove.

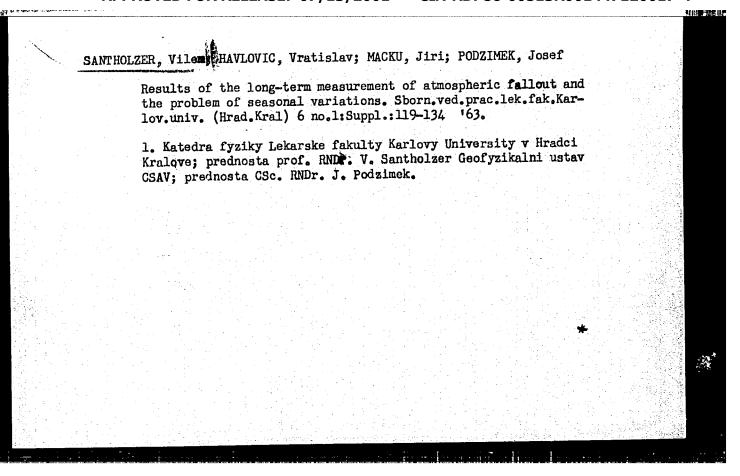
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| | l. Katedra fyziky, Hradec Kralove. | lekarska fakulta | Karlovy university, | |
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SANTHOIZER, V. Correction factor for self-absorption of flat beta emitters. Chekhosl fiz zhurnal 13 no.ll.822-826 '63. 1. Katedra fyziky lekarske fakulty Karlovy university, Hradec Kralove.

| ban. Jaderna energie 10 no.1:11-13 Ja.64. 1. Katedra fyziky lekarake fakulty Karlovy university, Hradec Kralove. | The second secon | R, Vilem Fallout during the period of the atmospheric nuclear test |
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SANTHOLZER, Vilem Dynamics of the transportation of fission products by atmospheric precipitations. Jaderna energie 10 no.7:251-253 Jl'64 1. Chair of Physics of the Faculty of Medicine, Charles University, Hradec Kralove.

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SANTHOLZEF, Vilem, prof. HNDr., DrSc.

Radioactive fallout after the cessation of experimental explosions

Radioactive fallout after the cessation of experimental explosions in the atmosphere. Sborn. ved. prac. lek. fak. Karlov. Univ. 7 no.4:549-555 '64.

1. Prednosta katedry lekarske fyziky Lekarske fakulty Karlovy university z Hradci Kralove.

SANTHOLZER, Vilem, prof. RNDr., DrSc.; NERUDA, Otakar; KNAIFL, Josef.

Radioisotopes in nuclear fallout from megaton tests. Sborn. ved. prac. lek. fak. Karlov. Univ. 9 no.1:169-173 64.

1. Katedra lekarske fyziky (prednosta: prof. RNDr. V. Santholzer, DrSc); Katedra radiobiologie (prednosta: doc. MUDr. J. Mraz, CSc.) Karlovy University v Hradci Kralove.

EN: (5), ET(m)/ENA(h) L 48291-45 CZ/0038/65/001/002/0047/0051 ACCESSION NR: AP501356 AUTHOR: Santholzer Wiles (Santgol'zer W.); Havlovic, Vratislav (Havlovic, V.); /6
Stransky, Praveslav (Stranskiy, P.); Neruda, Otakar; Knaifl, Josef (Knayfl', I.) /4 TIPLE: Gamma spectra of the atmospheric fallout and age indexes after the cessation of nuclear tests SOURCE: Jaderna energie, no. 2, 1965, 47-51 TOPIC TAGS: gamma ray, gamma spectroscopy, atmospheric property, radioactive fallout, managamese, strontium, isotope ABSTRACT: Samples of atmospheric fallout in the years 1963 and 1964, in the period after the cessation of nuclear tests, were analyzed spectrometrically. The quantities of the individual nuclides in the mixture were determined from the spectra by absolute evaluation using comparative preparations and standards. was determined along with fission products with long half lives. At the same time, 90 Sr was determined radiochemically. In this way it was possible to make use of several age indexes and to determine approximately the age of stratespheric fallout Orig. art. has: 6 graphs, 5 formulas. from their half lives. Card 1/2

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SANTHOLZER, Vilem; HAVLOVIC, Vratislav; STRANSKY, Pravoslav

Models of the atmospheric fallout on the earth. Cs cas fys 15 no.3;193-202 65.

1. Chair of Physics of the Faculty of Medicine of Charles University, Hradec Kralove. Submitted June 25, 1964.

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CZ/0038/65/000/003/0102/0103 EWA(h) L 00091-66 ACCESSION NR: AP5025522 AUTHOR: Havlovic, Vratislav; Santholzer TITLE: An apparatus for the collection of samples of aerosols on membrane filters SOURCE: Jaderna energie, no. 3, 1965, 102-103 TOPIC TAGS: radioactive fallout, industrial filter, aerosol chemistry ABSTRACT: The apparatus uses a membrane filter with a pore size 1.2 . Curves are given showing flow rate and pressure drop as a function of time. Results of collections of activity from June 1963 through June 1964 are shown. These data were used to calculate the rate of dry deposition of activity, V, and a cleansing factor, W, based on the activity in rain water. During the course of the period tested, V fell from 0.6 cm/sec to 0.4 cm/sec while the factor W was of the order of 1000 to 2000. These figures are given as examples of the way in which such equipment can be used to predict the long-term nuclear fallout on the earth's surface. Orig. art. has 1 figure and 2 graphs. ASSOCIATION: Katedra fyziky lekarake fakulty Karlovy university, Hradec Kralove (Department of Physics, Medical Faculty, Charles University) SUB CODE: NP. ENCL: 00 SUBMITTED: 00 NA: OTHER: NO REF SOV: 000 Card 1/1

SANTHOLZER, Vilem

Radioactivity in our vital environment. (Status after the conclusion of the Moscow treaty). Shorn. ved. prac. lek. fak. Karlov. Univ. 8 no.3:395-399 '65.

1. Katedra lekarske fyziky (prednosta: prof. RNDr. V. Santholzer, DrSc.), Karlovy University v Hradci Kralove.

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ACCESSION NR: AP5018472

cz/0055/65/015/007/0506/0512

AUTHOR: Santholzer, V.

TITLE: Results of measurements and analysis of nuclear fallout up to the beginning of 1965

SOURCE: Chekhoslovatskiy fizicheskiy zhurnal, v. 15, no. 7, 1965, 506-512

TOPIC TAGS: radioactive fallout, atmospheric contamination, stratosphere, radio strontium

ABSTRACT: The author has been making since April 1964 a systematic interpretation of γ-ray scintillation spectra of the activity at ground level air and dry fallout and rain. The results showed further decrease of activity throughout 1964. The β activity decreased to several tenths of a mc/km². From April to August, an increase in the activity was again observed, due to the fall of radioactive dust from the stratosphere to the troposphere as a consequence of meteorological factors. The seasonal variation was not so pronounced in 1964 as in 1963, when the activity increased in May and June six to seven times over February and March. In 1964 the springtime increase in activity was approximately three times. The Chinese atomic bomb test in October 1964 had no marked effect at the Czechoslovak Station. The idea that there exists a stratospheric reservoir of artificial radioactivity, re-

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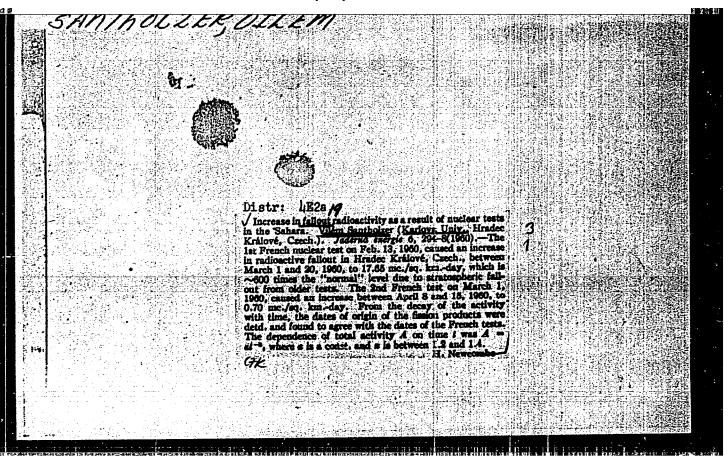
EWT(m) SOURCE CODE: CZ/0038/66/000/001/0028/0030 L 30923-66 AP6022922 ACC NR: AUTHOR: Santholzer, V. ORG: none TITLE: New fission products resulting from Chinese atomic explosions SOURCE: Jaderna energie, no. 1, 1966, 28-30 TOPIC TAGS: muclear explosion, fission product, radioactive fallout, beta radiation, gamma radiation After the first Chinese atomic explosion in the fall of 1964 the increase of the gamma spectrum fall-out in Czechoslo-vakia was rather small; an increase in Zr and Nb was, however, observed. The second Chinese explosion occurred in mid-May 65. Two weeks later an increase in the beta fall-out occurred, with a maximum activity of 1.5 nCi/day from a collector with an area of 1 square meter. Comparison with samples of \$700+790 was used for the evaluation of the fall-out, although Tl would have been more suitable. The use of \$40 is discussed; it was not suitable. because of its low beta radiation. Orig. art. has: 3 figures. [JFRS] SUB CODE: 18 / SUBM DATE: none / ORIG REF: 009 / OTH REF: 003 UDC: 621.039:614.7(437) Card 1/1 1/0 09

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L 37013-66 CZ/0038/66/000/004/0143/0145 SOURCE CODE: ACC NR: AP6027045 ORG: Department of Physics, Medical Faculty, Charles University, Hradec Kralove B(Katedra fyziky lekarske fakulty Karlovy university) TITIE: Quantitative determination of radionuclides using gamma spectra TOPIC TAGS: gamma spectrum, spectrum analysis, beta radiation ABSTRACT: Literature (26 references) on the determination of radionuclides from their gamma spectra is reviewed. The individual nuclides may often be determined by a combination of radiochemical separation and identification of the gamma spectra. The simplest method for determining an element from its gamma spectrum depends on finding the area under the photopeak, taking as the base of the area the abscissal distance between the "valleys" on either side of the peak. The number of curies of the nuclide present can then be calculated from a formula. This value may be converted to the absolute beta activity by a conversion coefficient. In a mixture of radionuclides, each may be determined individually by calculation from the gamma spectra. In the subtraction method the spectrum is analyzed differentially. By the graphic method, on log-log paper, two nuclides, e.g., 134Cs and 137Cs, may be determined individually; three may also be determined. The effect of beta radiation on measurements made with a well counter is shown in a Fermi-Curie plot. Orig. art. has: 4 figures. [NA] SUB CODE: 20 / SUBM DATE: none / ORIG REF: 004 / SOV REF: 003 OTH REF: 019 539.166.3 UDC: 543.53: Card 1/1 ma

SOURCE CODE: CX/0038/66/C00/005/0171/0173 ACC NR. AP7002528 AUTHOR: Shutholzer, Vilon Bepartment of Physics, Medical Faculty, Charles University, Hradec Karlove (katedra Typiky lekarske fakulty Karlovy university) TITLE: Simple method for determining the activity of two mixed gamma-ray emitters SOURCE: Jaderna energie, no. 5, 1966, 171-173 TOPIC TAGS: gamma ray, gamma spectrum ABSTRACT: A graphic method suitable for relatively prompt determination of the activity of separate radionuclides in a mixture of two or three radionuclides, gamma energies of which are sufficiently different, is described. This graphic method is based on the integral spectrum and therefore has better statistics. The method is suitable for weak activities of the order of nC, and necessitates suitable standard preparations of those radionuclides to be measured. For our experiments a mixture of 54Mn + 137Cs with activities of 5.27 and 4.14 nC. Orig. art. has: 1 figure, 2 formulas and 1 table. [NA] SUB CODE: 18 / SUBM DATE: 15Jul65 / SOV REF: 002 / OTH REF: CO4 UDC: 539.12.082: 539.166.3: 546.36.02: Card 1/1



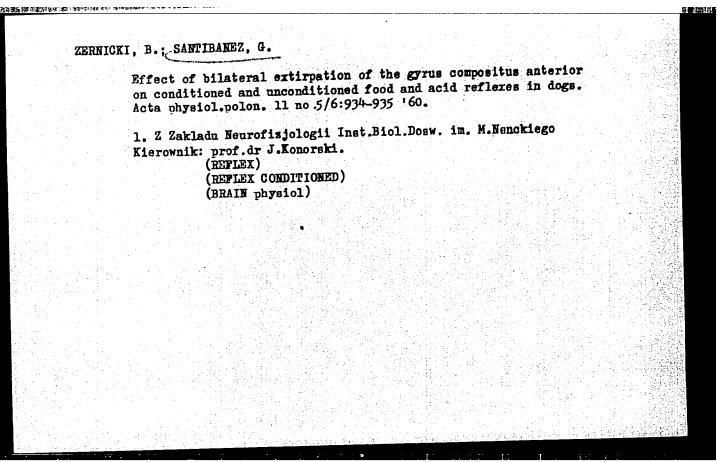
| The effects of ablations of alimentary area of the cerebral cortex on salivary conditioned reflexes in dogs. Acta biol exper 21:163-176 **161. 1. Department of Neurophysiology, Nencki Institute of Experimental Biology, Warsaw. (DOGS) (BRAIN) | | | |
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Correlation between the effect of hypothalamic stimulation on KENand on pupil dilatation in the preparation cerveau isole and
pretrigeminal in cats. Acta physiol.polon.ll no.5/6:881-882 '60.

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| 1. Z Zakladu Neurofisjologii Inst.Biol.Dosw. im. M.Nenckiego Kierownik: prof.dr J.Konoreki. (CEREBRAL CORTEX anat & histol) (PONS anat & histol) | Cortical representation of the chorda tympani in dogs. Acta physiol. polon. 11 no.5/6:882-883 '60. | |
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Contributions to reducing the volume of work necessary for the elaboration of the plan of organizing construction work. p. 9. (INDUSTRIA CONSTRUCTIILOR SI A MATERIALEOR DE CONSTRUCTII. (UMANIA. Vol. 7, no. 1, Jan. 1956.)

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Typical plans for provisional constructions in building yards and their meaning in planning the organization of building yards.

p. 393 (Industria Constructiilor Si A Materialelor De Constructii. Vol. (7) no. 7, 1956. Bucuresti, Rumania)

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